

MARIE TRAINING PROGRAM FOR IMPROVEMENT IN ENERGY EFFICIENCY (EE) OF EXISTING BUILDINGS

**F1 | BEST PRACTICES COLLECTION**

Best Practice Name:	Exemplary renovation of the Fort of Entrecasteaux
Code:	FR-MX-CO-16

Best Practice Description:

Type:	<input checked="" type="checkbox"/> Action for improvement in the EE	<input checked="" type="checkbox"/> Training experience (*)
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Description:	<p>The Fort of Entrecasteaux was built in the XVIIth century and has been listed as “Historic Monument” since 1969.</p> <p>The restoration covers the ramparts, reconstructed and elevated in 1830, the “demi-lunes” and the bastions with an aim to keep the fort’s identity while implementing HEQ (High Environmental Quality) standards and ISO 14001.</p> <ul style="list-style-type: none"> <li>• Energy efficiency pre-diagnosis</li> <li>• Professional integration workshops with trainings included</li> <li>• « clean » building-sites with waste sorting</li> <li>• Retrieval of maximum materials in order to re-use them on the building sites</li> <li>• Use of local materials</li> <li>• Work :             <ul style="list-style-type: none"> <li>✓ Demi-lune : re-do sealing of roof terrace with multilayer insulation (partly polyurethane)</li> <li>✓ Bastions : traditional insulation techniques with lime concrete and clay bricks</li> <li>✓ Finishing: insulation based on hemp and lime mortar applied on floor and walls</li> <li>✓ Double glazed wood joineries <math>U_w=1,6 \text{ W/m}^2\text{K}</math>, tilt and turn for night-time ventilation</li> <li>✓ Fire-places, present in each room, are kept for natural ventilation</li> <li>✓ Electricity network redone with energy saving devices</li> <li>✓ Installment of floor heating / refreshing with an air/water heat pump</li> <li>✓ Sanitary facilities with VCM simple flux and auxiliary electric DHW since it is only for washbasins consumption.</li> <li>✓ Rainwater is collected in the old tanks for flushing water</li> </ul> </li> </ul>
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Location:	MARSEILLE	Country:	FRANCE
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Contact (team):	<b>Association Acta Vista :</b> Fort Saint-Nicolas 1, bd Charles-Livon 13007 Marseille <b>Tél. :</b> +33 (0)4 91 72 79 00 Arnaud Castagnède : <a href="mailto:arnaud.castagnede@actavista.fr">arnaud.castagnede@actavista.fr</a>		
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Type of building:	<input checked="" type="checkbox"/> Tertiary	<input type="checkbox"/> Residential	<input type="checkbox"/> Mixed
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Property:	<input type="checkbox"/> Public	<input type="checkbox"/> Private	<input checked="" type="checkbox"/> Mixed
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Management:	<input type="checkbox"/> Public	<input type="checkbox"/> Private	<input checked="" type="checkbox"/> Mixed
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Fields of action:	<input checked="" type="checkbox"/> Construction	<input checked="" type="checkbox"/> Maintenance	<input type="checkbox"/> Use
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	<input checked="" type="checkbox"/> Energy generation and distribution	<input type="checkbox"/> Other
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X	Replacement or implementation of renewable energies
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Heat pump
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Please, evaluate if the following processes take place in the Best Practice that you are describing in this form:

	Yes	No
The <b>data collection</b> has been complete and rigorous	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Communication and awareness</b> processes have been developed to disseminate this practice	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Training actions</b> have been provided	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Product and services</b> have been improved	<input type="checkbox"/>	<input type="checkbox"/>
<b>Jobs</b> have been created	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Sustainable financial models</b> have been applied	<input type="checkbox"/>	<input type="checkbox"/>
Agreements or <b>collaboration models</b> have been defined between parties	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Positive impact tested in the following fields (add quantitative data if you have):

<b>ENERGY EFFICIENCY IMPROVEMENT (EE)</b>	<p>Final energy consumption in heating is 175 kWh/m<sup>2</sup>.year before the work and 58 kWh/m<sup>2</sup>.year after the work.</p> <p>The benefits of the investment are twofold:</p> <ul style="list-style-type: none"> <li>- Usage or rental quality, which has an impact on the quality of life for employees, and hence on their productivity (see studies Berkeley - ARENE Ile de France)</li> <li>- Increased longevity of the building therefore less depreciation</li> <li>- The items are valued at 10,000 euros per year of potential savings.</li> </ul> <p>Return time on investment: 13 years</p> <p>On the basis of an increase in energy from 3% to 4% per year (in addition to cost of living), the payback period decreases to 12 then 11 years.</p>
<b>FINANCIAL COVERAGE</b>	<ul style="list-style-type: none"> <li>- European Union (ERDF) = 50%</li> <li>- State - DRAC (Cultural Affairs Regional Management) for the rehabilitation of historic assets = 5%</li> <li>- State - ADEME (Agency for the Environment and Energy Management) for the energy efficiency diagnostic = 1%</li> <li>- State - ASP (Services and Payment Agency) = 15%</li> <li>- Conseil Général - ASP = 6%</li> <li>- PACA Region - AGIR / PREBAT program "100 model buildings with low energy consumption in PACA" = 2%</li> <li>- Own resources and direct patronage = 20%</li> </ul>
<b>EMPLOYABILITY POTENTIAL</b>	<p>The project mobilized about 100 positions per year with a professional integration convention.</p> <p>The rehabilitation work enabled the Professional Integration body, unique in its kind in Marseille, to operate approximately 1200 m<sup>2</sup> of SHON (net floor area) including 551 m<sup>2</sup> of usable floor area affected by the project and about 600 m<sup>2</sup> of workshops outside (workshop stone-masonry and dry-stone masonry) in a same location, to act on the development of economic activity and local employment through professional integration initiatives that combine practical training and professional integration.</p>

<b>OTHER</b>	The Professional Integration body is primarily addressing people experiencing social and professional exclusion or people who have come up before the Court - people with a disability consistent with the integration activity: the creation of this integration center in the center of Marseille and its easy access will facilitate accommodating offenders. Acta Vista has been working with the SPIP (Penitentiary service for Integration and Probation) for 4 years and employs more than 80 people every year who benefit from adjusted penalty. It thus represents the largest regional employer of people in custody. The capacity to take these people in would increase due to the new equipment.
<b>DIFFICULTIES</b>	The first difficulty on the site is the funding, 80% dependent on public funds which involve tedious setting-up of files with uncertain outcome. The majority of the workforce comes from people in integration and for everything related to thermal work, a design office/consultancy group was called in to consult enterprises. The company chosen for the installation of the heat pump has subcontracted another company that did not have the skills to meet the demand which delayed the project.

Agents involved in this experience:

<input checked="" type="checkbox"/>	Legislation agencies
<input checked="" type="checkbox"/>	Public promoters
<input checked="" type="checkbox"/>	Private promoters
<input type="checkbox"/>	Technical public institutions
<input checked="" type="checkbox"/>	Technicians of the private sphere (professional associations ...)
<input type="checkbox"/>	Builders
<input checked="" type="checkbox"/>	Industrial
<input checked="" type="checkbox"/>	Facility Managers (property managers, cleaning companies ...)
<input checked="" type="checkbox"/>	Energy supply companies
<input type="checkbox"/>	Users/owners (homeowners association, schools ...)
<input type="checkbox"/>	Other:

<b>GAPS</b>	Sub-contractors chosen by companies that tend to the market should meet the guarantees demanded by the market.
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(\*) **RR\_BB\_FF\_NN**

**RR** Country: **CY** (Cyprus), **FR** (France), **GR** (Greece), **IT** (Italy), **MT** (Malta), **PO** (Portugal), **SL** (Slovenia), **SP** (Spain)

**BB** Type of building: **RE** (residential), **TE** (tertiary), **MX** (mixed)

**FF** Field of action: **CO** (construction), **MA** (maintenance), **US** (use), **EN** (energy generation and distribution), **OT** (other)  
(in case of affecting more than one field of action choose the most relevant)

**NN** Number of the practice: **01, 02, 03...**

**(\*)IN CASE OF A TRAINING EXPERIENCE:**

Course name:	Professionalizing training and technical training
Duration:	Professionalizing : 61h ; Technical : 994h in 9 modules
Web:	<a href="http://www.actavista.fr/les-formations/formations-pour-professionnels">http://www.actavista.fr/les-formations/formations-pour-professionnels</a>
Director/a:	<b>BAO</b> <b>Céline Yordikian</b> 1, bd Charles-Livon 13007 Marseille
Who is it aimed:	Employees in professional integration
Objectives:	Professionalizing training associated with technical training allows employees to get a certification.
Program:	<ul style="list-style-type: none"> <li>- <u>Professionalizing training:</u> At the end of the course, students will be able to: <ul style="list-style-type: none"> <li>• Know the job search techniques</li> <li>• Make the most of their strengths and skills in front of a company or jury</li> <li>• Feel comfortable in their job search or when approaching professionals.</li> </ul> </li> <li>- <u>Technical training:</u> <ul style="list-style-type: none"> <li>• Health and safety at work</li> <li>• Knowledge of equipment (tools)</li> <li>• Knowledge of materials</li> <li>• Basic techniques</li> <li>• Awareness of eco-construction</li> <li>• Masonry work in old buildings</li> <li>• Plastering/coating</li> <li>• Form work</li> <li>• Rescue and First Aid at Work</li> </ul> </li> </ul>
Methodology:	70% theory and 30% case study Formative evaluation and hands-on exercises

I agree to bring this experience to the database of the MARIE project, which will create a comprehensive training program for improving the energy efficiency of buildings in the area of the Mediterranean.